

Serial No. 10/650,893

Atty Dkt No. 706716US1

IN THE CLAIMS:

1-10 (Canceled)

11. (Previously Presented) A method of generating hydrogen for use in a fuel cell, comprising the steps of:

providing a source of dry metal hydride fuel selected from the group consisting of calcium hydride, lithium hydride, lithium borohydride, magnesium hydride, sodium hydride and sodium borohydride;

providing a source of steam;

providing a mixing chamber operably connected to the source of dry metal hydride fuel and the source of steam;

transporting dry metal hydride fuel and steam into the mixing chamber to initiate a hydrogen-producing reaction;

removing a dry metal powder byproduct from the mixing chamber; and
removing hydrogen from the mixing chamber;

wherein the mixing chamber comprises a screw drive transporter coated with a catalyst for initiating the reaction between the steam and the dry metal hydride fuel.

12-15 (Canceled)

16. (Currently Amended) A system for generating hydrogen gas for use in a fuel cell, comprising:

a powder metal hydride source;

a heat source arranged to vaporize a source of water into a source of steam;

a mixing device capable of mixing the powder metal hydride and steam; and

a catalytic hydrogen generating chamber;

~~The system of claim 1~~ wherein the mixing device and the catalytic hydrogen generating chamber comprises a screw drive transporter coated with a catalyst.

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17. (Currently Amended) The system of claim 16 wherein the mixing device comprises a screw drive transporter connected at a first end to the powder metal hydride source and at a second end to the source of steam, wherein the screw drive is arranged to transport the powder metal hydride from the first end to the second end, and the steam is arranged to feed into the second end to pass through the powder metal hydride toward the first end such that the steam reacts with the powder metal hydride to produce hydrogen gas.

18 (Canceled)

19. (Currently Amended) The system of claim 16 wherein the heat source is provided by heat generated in the catalytic hydrogen generating chamber.

20. (Currently Amended) The system of claim 16 wherein the powder metal hydride source is selected from the group consisting of calcium hydride, lithium hydride, lithium borohydride, magnesium hydride, sodium hydride and sodium borohydride.

21. (Currently Amended) The method of claim [[2]] 11 wherein the source of heat is provided by heat generated in the hydrogen-producing reaction.

22. (Previously Presented) The method of claim 11 wherein the source of steam is provided by using heat generated in the hydrogen-producing reaction to vaporize a source of water into steam.